

REMARKS

Claims 1-19 are pending. By this Amendment, claims 1 and 9 are amended and claims 16-19 are added. Reconsideration and allowance in view of the foregoing amendments and following remarks are respectfully requested.

Drawing Objections

The Drawings are objected to for containing reference signs not mentioned in the description. Applicants respectfully submit that the reference sign "5" is cited in page 5, line 1 of the present application. Additionally, the reference sign "P" is cited on page 3 in the description of Fig. 8. Applicants note that the reference sign "P" is used to identify the orientation of the view of Fig. 8 relative to Fig. 7 and not to designate a particular feature or element. Further, Applicants have canceled reference signs "43" from Fig. 1 and "79" from Fig. 6 in the attached Drawing Change Authorization Request, filed herewith.

Additionally, the Drawings are objected to for not including reference signs contained in the description. Applicants respectfully submit that Fig. 1 has been changed in the attached Drawing Change Authorization Request to include the reference sign "4". Fig. 1 has been further amended to correct inconsistencies between the reference signs "22" and "33", as indicated by the Examiner.

Further, the Drawings are objected to for not showing every feature recited in the claims. Applicants respectfully submit that the wall and frame are adequately shown in the Drawings. Nevertheless, Applicants have highlighted the wall by adding the numeral "100" to the specification to designate the end wall and by adding the reference sign "100" to Fig. 1 (in the attached Drawing Change Authorization Request) to indicate the position of the end wall.

Applicants respectfully submit that no new matter has been added and request that the objections to the Drawings be withdrawn.

Claim Rejections Under § 112

Claims 1-15 are rejected under 35 U.S.C. § 112, second paragraph. Applicants respectfully submit that the recitation of the "wall having lead-wire-holes" is supported by the specification. In particular, the lead-wire-holes are defined as being formed within the wall so that at least two of the output lead wires may be connected to respective input terminals of the rectifier unit. Nevertheless, Applicants have amended claims 1 and 9 to recite the lead-

wire-hole or holes as being formed within the wall. Accordingly, Applicants respectfully request that the rejection of claims 1-15 under § 112 be withdrawn.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-15 are rejected under 35 U.S.C. § 103(a) over Umeda et al. in view of Ooiwa et al. This rejection is respectfully traversed.

Claim 1 is directed to an ac generator for a vehicle. The ac generator according to claim 1 includes a rotor with a shaft, a stator with a multi-phase stator winding, and a rectifier with input terminals. The stator winding has output lead wires for respective phase voltages, which are respectively connected to the input terminals. The ac generator also includes a frame having a wall. The wall supports the stator at one side thereof and supports the rectifier unit at another side thereof. The wall has a lead wire hole formed therein for at least two of the output lead wires to be respectively connected to the input terminals. In this manner, fewer lead wire holes need be formed within the frame thereby reducing the manufacturing cost of the generator.

Claim 9 is directed to an ac generator for a vehicle. The ac generator according to claim 9 includes a multi-poled rotor and a stator. The stator has a multi-phase stator winding, which has output lead wires for multi-phase output voltages. Respective two of the output lead wires form a plurality of bundles. The ac generator of claim 9 also includes a full-wave rectifier unit having input terminals disposed to correspond to the bundles and respectively connected to the output lead wires. Further, the ac generator includes a frame having a wall, which supports the stator at one end thereof and supports the rectifier unit at another side thereof. The wall has lead wire holes formed therein and positioned to correspond to the bundles. As with claim 1, the frame recited in claim 9 may be formed with fewer lead wire holes, which reduces the manufacturing cost of the generator.

Umeda discloses a stator for an alternator for a vehicle. The stator includes a stator core and a multi-phase stator winding. The stator winding is formed by surrounding small conductor segments with large conductor segments to form double-turned coils. The arrangement of the stator, according to Umeda, allows the stator to be formed at a high productivity and low cost.

Applicant respectfully submits that Umeda does not disclose an ac generator having a frame with a wall to support a stator on one side thereof and to support a rectifier on another side thereof. Umeda especially does not disclose such a wall with a lead wire hole formed therein for at least two of the output lead wires to be respectively connected to the input

terminals, as recited in claim 1. Additionally, Umeda does not disclose a wall with lead wire holes formed therein and positioned to correspond to bundles provided by at least two of the output lead wires. Umeda is deficient with regards to these features of independent claims 1 and 9.

In paragraph 8 of the Office Action, the Examiner alleges that “the wall has three lead wires holes [sic] each of which has a bundle of said output lead wires respectively extending from the pair of three-phase windings (see figure 5 and 6).” Applicant respectfully disagrees. Ooiwa does not disclose openings within the frame other than the air cooling inlets 803, which allow air to pass therethrough to facilitate cooling of the generator. Further, Figs. 5 and 6 of Ooiwa show respective arrangements of terminal bases 513 and not a wall having “three lead wires holes [sic] each of which has a bundle of said output lead wires”, as stated by the Examiner. Accordingly, contrary to the allegations of the Office Action, Ooiwa does not make up for the deficiencies of Umeda. In particular, Ooiwa does not disclose a frame having a lead wire hole formed within a wall thereof to allow at least two output lead wires to be respectively connected to input terminals. Furthermore, neither Umeda or Ooiwa address the issue of reducing manufacturing cost of the generator by reducing the number of lead wire holes that need to be formed within the frame. Applicant respectfully submits that the combination of Umeda and Ooiwa does not render obvious the features of claims 1-15 and request that the rejection of claims 1-15 under § 103 be withdrawn.

Additionally, Applicant respectfully submits that new claims 16-19 are allowable over Umeda and Ooiwa for at least reasons similar to those discussed above with respect to claims 1-15. Accordingly, Applicants respectfully submit that new claims 16-19 are allowable over Umeda and Ooiwa.

In view of the above amendments and remarks, Applicant respectfully submits that all the claims are patentable and that the entire application is in condition for allowance. Should Examiner Gonzalez believe that anything further is desirable to place the application in better condition for allowance, he is invited to contact the undersigned at the telephone number listed below.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached Appendix is captioned "Version with markings to show changes made".

Respectfully submitted,
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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The specification is changed as follows:

The last paragraph on page 4 extending to line 1 of page 5 is changed as follows:

Voltage regulator 6, rectifier unit 7, brush unit 8 are respectively fixed to the rear wall surface of an end wall 100 of rear frame 4b and covered by rear cover 5.

The first full paragraph on page 8 is changed as follows:

As shown in Figs. 7, 8, and 9, first terminal member 781 is inserted into one of three lead-wire-holes 44 formed coaxially at the end wall 100 of rear frame 4b. Other two lead-wire-holes 44, are also formed at the portions of rear frame 4a to correspond to second and third terminal members 782 and 783. In the preferred embodiment, the number of lead-wire-holes 44 equals to the number of phases (e.g., three).

IN THE CLAIMS:

The claims are changed as follows:

1. (Amended) An ac generator for a vehicle comprising:
 - a rotor having a shaft;
 - a stator having a multi-phase stator winding which has output lead wires for respective phase voltages;
 - a rectifier unit having input terminals respectively connected to said output lead wires; and
 - a frame having a wall supporting said stator at one side thereof and said rectifier unit at [the other] another side, said wall having [lead-wire-holes] a lead wire hole formed therein for at least two of said output lead wires to be respectively connected to said input terminals.

9. (Amended) An ac generator for a vehicle comprising:
a multi-poled rotor;
a stator having a multi-phase stator winding which has output lead wires for multi-phase output voltages, respective two of said output lead wires forming a plurality of bundles;
a full-wave rectifier unit having input terminals disposed to correspond to said bundles and respectively connected to said output lead wires; and
a frame having a wall supporting said stator at one side thereof and said rectifier unit at]the other] another side, said wall having lead-wire-holes formed therein and positioned [disposed] to correspond to said bundles.

New claims 16-19 are added.

END OF APPENDIX